49. (New) The synthetic multimeric biopolymer of claim 12 wherein said biopolymer comprises a plurality of monomeric units that comprise one or more binding regions for an analyte and that change their three dimensional conformation in response to binding of an analyte to said monomeric unit.

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50. (New) The synthetic multimeric biopolymer of claim 1 wherein the change in conformation of the biopolymer is reversible.

51. (New) The synthetic multimeric biopolymer of claim 41 wherein the change in conformation of the biopolymer is reversible.

REMARKS

Claims 1-41 are pending in this application. By the Response to Restriction Requirement which is being filed herewith, claims 15-40 are withdrawn from consideration as being drawn to a non-elected invention. By the present amendment claims 16-37 are hereby canceled without prejudice or disclaimer. By the present amendment claims 1, 12, 14 and 41 are amended and new claims 42-51 are added. A document entitled "MARKED UP VERSION OF THE CLAIMS SHOWING CHANGES MADE", showing the deletions in brackets and the additions as underlined is attached hereto.

Support for the amendments to claim 1 is found in on pages 5-6 and original claim 14. Support for the amendments to claim 12 is found on page 6 and original claim 13. Support for the amendment to claim 41 is found on page 6. New claims 42-47 find support on page 7 of the specification. New claims 48 and 49 find support on page 6 of the specification. New claims 50 and 51 find support on page 13, first full sentence. The amendments and new claims add no new matter. Applicants respectfully request entry of the present amendment.

Respectfully submitted,

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MARKED UP VERSION OF CLAIMS SHOWING CHANGES MADE

1. (Once Amended) A synthetic multimeric biopolymer comprising [a plurality of] two or more monomeric units selected from the group consisting of proteins, polypeptides, nucleic acids, peptide nucleic acids, and combinations thereof;

wherein said monomeric units are the same or different and are linked to each other;

wherein at least one of said [plurality of] monomeric units comprises a binding region for an analyte; [and]

wherein said multimeric biopolymer changes its three-dimensional conformation in response to binding of the analyte to said binding region, and

wherein at least one of said monomeric unit transmits a detectable signal selected from the group consisting of a fluorescent signal, an optical signal, an electrochemical signal, a pressure change, a dielectric constant change, a mass change, a volume change, and a temperature change in response to the change in three-dimensional conformation of the biopolymer [binding of the analyte to said binding region].

12. (Once Amended) A synthetic multimeric biopolymer comprising [a plurality of] two or more monomeric units selected from the group consisting of a protein, a polypeptide, a nucleic acid, and a peptide nucleic acid,

wherein said monomeric units are the same or different and are linked to each other,

wherein at least one of said [plurality of] monomeric units comprises a binding region for an analyte, and

wherein binding of the analyte to said binding region results in a change in conformation of said monomeric unit and the formation of protons or hydroxides or the transmission of a detectable signal by at least one other monomeric unit of the multimeric polymer.

14. (Once Amended) The biopolymer of claim 12 wherein said biopolymer comprises a monomeric unit that transmits a detectable signal selected from the group consisting of a fluorescent signal, an optical signal, an electrochemical signal, a pressure change, a dielectric constant change, a mass change, a volume change, and a temperature change in response to [binding of the analyte to said binding region] the change in the three-dimensional conformation of the biopolymer.

41. (Once Amended) A synthetic multimeric biopolymer comprising [a plurality of]two or more monomeric units selected from the group consisting of proteins, polypeptides, nucleic acids, peptide nucleic acids, and combinations thereof;

wherein said monomeric units are the same or different and are linked to each other;

wherein [at least one of said] a plurality of said monomeric units in said biopolymer [comprises] comprise a binding region for an analyte,

wherein each of the monomeric units that comprise a binding region for an analyte exhibits a change its three-dimensional conformation in response to binding of the analyte to said monomeric unit; and

wherein said multimeric biopolymer [amplifies changes] exhibits a greater change in its three-dimensional conformation in response to binding of the analyte to said binding region of said monomeric units than the conformational change that occurs in an individual monomeric unit as a result of binding of an analyte to said individual monomeric unit.